

403 326

63-3-2

US ARMY ARCTIC TEST BOARD
APO 733, Seattle, Washington

STEBE-TS

6 May 1963

SUBJECT: Memorandum Report Nr 14, 1962-63 Test Season

TO: See Distribution

1. References:

Letter, Hq, USCONARC, ATDEV-MGP, dated 30 April 1962, Subject: Report of Arctic Test Planning Conference held at USCONARC 4-5 April 62.

2. Reporting Period:

Information contained in this report covers the period 23 April 1963 thru 6 May 1963. Reprts are prepared bi-weekly commencing in October and continuing through May of each year.

3. General:

a. Purpose of the Memorandum Report is to highlight the test activities of the US Army Arctic Test Board, to report on specific problems of supply and maintenance of test and support items, and to furnish general information on the performance of equipment under test. Attempt will be made to acquire and present test information in sufficient detail to enable project engineers and other interested persons to evaluate the progress of each test. Information contained in this report does not necessarily represent the conclusions of the US Army Arctic Test Board and are not to be construed as final results.

b. Test projects are grouped by Commodity Commands in annexes A thru F. Annex B will be deleted from this report as all projects from the US Army Missile Command have been completed for the 1962-63 test season. It is requested that any error of assignment to a Commodity Command be brought to the attention of the Technical Coordinator, US Army Arctic Test Board, APO 733, Seattle, Washington.

c. Effective 1 August 1962, the US Army Arctic Test Board assumed command, logistical support, and administrative functions of the former technical service test activities located at Fort Wainwright, Alaska. Concurrently the mission of the US Army Arctic Test Board was expanded to include the engineer-service tests, check tests, and confirmatory and evaluation tests. In keeping therewith, the bi-weekly report will include information obtained from the Fort Wainwright test activities and the Chemical Test Activity at Fort Greely, Alaska.

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4. Weather:

Weather information from the ranges will not be available until the start of the 1963-64 test season.

FOR THE PRESIDENT:

5 Inclosures

Annex A, USA Mobility Comd.
Annex C, Weapons Comd.
Annex D, USA Munitions Comd.
Annex E, USA Electronics Comd.
Annex F, QM Res & Engr Comd.


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Annex A, To Memorandum Report Nr 13, 6 May 63 (STEBE-TS)

US ARMY MOBILITY COMMAND

- (1) PCN 13-OAD, Generator Set, Model JS-6G, (Cummings, (U):
Reference is made to Report of Project 7D-3042-02, which was approved 24 April 1963. Tests were conducted to determine the suitability of the Generator Set, Model JS-6-G for Army use under arctic winter conditions. Two generators were exposed to the arctic winter environment and operated at ambient temperatures ranging from 45°F to -52°F. It was concluded that the Generator Set, Model JS-6-G is suitable for Army use under arctic winter conditions.
- (2) 7D-3208-01 (PCN-OAF), Snow Removal Unit, SP, GB, Rotary, Truck Mounted, 7 1/2-Ton, w/Loading Device, (U): Testing is completed, and final report is being prepared.
- (3) 1D-3555-16, (PCN OBR), Carrier, Utility, Articulated, XM571, (U): Approximately 1,105 miles of operation have been completed.
- (4) 1D-3302-60 (PCN OBS), Carrier, Amphibious, M116, (U):
Approximately 1,105 miles of operation have been completed. Clutch and engine seal repair has been completed. Failures of the track, shocks, and idler wheel mountings have failed and the vehicle is presently on deadline.
- (5) 1D-3776-60 (PCN OBT), Winterization Kit, (-65°F) for Truck, Utility, 1 1/4-Ton, 4x4, M151, (U): Testing is completed, and final report is being prepared.
- (6) 1D-3459-16 (PCN OBU), Truck, Cargo, 8-Ton, XM520E1, (U):
Approximately 3,760 miles of operation have been completed. Cross Country operations now underway. Summer mobility, muskeg operation and floating of the vehicle are scheduled for this summer.
- (7) 1D-3777-60 (PCN OCC), Winterization Kit, (-65°F), for Truck, Cargo, 2 1/2-Ton, 6x6, M35A1, (U): Testing is completed, and final report is being prepared.
- (8) 1D-3457-16 (TCN 437), Truck, Cargo, 16-Ton, 4x4, XM437E1, ATB 2-172, (U): Approximately 10,936 miles of operation have been completed. Nothing new to report.
- (9) 1D-3458-16 (TCN 438), Truck, Tank, Fuel, 5,000-Gallon, XM438E2, ATB 2-172, (U): Testing is completed, and final report is being prepared.
- (10) 1D-3551-60, Italian Mountain Vehicle, 3x3, ATB 2-272, (U): The oil seals were received 15 April 1963. The oil seals have been installed, and vehicle is back in operation. Durability testing is underway. Approximately 7,091 miles of operation have been completed.

Annex A, Cont'd

(11) PCN 33-OBK, Carrier, Personnel, Full Tracked, Armored, M113, w/Stowage Kit, (U), (S): Testing is completed, and final report is being prepared.

(12) PCN 43-ODL, HU-1D, Helicopter w/Arctic Markings, Winterization Kit, Skis, NICAD Batteries, (U): Testing is completed, and final report is being prepared.

(13) 4D-3505-03 (PCN ODN), MK-XII, Auxiliary Fuel System, (U): Reference is made to Report of Test, 4D-3505-03, Service Test of Aircraft Auxiliary Fuel System Mark XII, which was approved 19 April 1963. Tests were conducted to determine the suitability of the Aircraft Auxiliary Fuel System, Mark XII for Army use under arctic winter conditions. The Polurethane-constructed Torso Tanks lost flexibility at -20°F and below, and the rigid tanks could not be man-handled or pressure filled without damage. The Neoprene-constructed funnel lost flexibility in cold temperatures and would not clamp around the servicing nozzle at -32°F. The Auxiliary Fuel System was installed and operated in the test aircraft in outside temperatures ranging from -5°F to -52°F; however, the aircraft heater was utilized and cargo compartment temperature of 70°F to 35°F was maintained during flights. It was concluded that the Aircraft Auxiliary Fuel System required modification to correct the loss of flexibility at low temperatures in order to make it suitable for Army use under arctic winter conditions. Item will be deleted from the next report.

(14) PCN 23-002, Thikol, Sprite, Model 201, (Trackmaster), (U): Approximately 1,425 miles of operation have been completed. Item is presently down for engine replacement.

(15) 7D-3138-03 (PCN 004) Rolling Liquid Transporter (Comparison-Disc vs Drum Brakes), (U): Reference is made to Report of Test, 7D-3138-03, Rolling Liquid Transporters (Comparison-Disc vs Drum Brakes), which was approved 26 April 1963. Tests were conducted to determine the comparative operational and performance characteristics under arctic winter conditions between an RLT equipped with improved disc brakes and an RLT equipped with new drum brakes. It was concluded that the disc brakes were satisfactory; that the drum brakes were unsatisfactory with respect to compatibility of components, safety, maintenance, and durability and reliability; that the drum brakes were satisfactory with respect to functional suitability; that the basic transporters serial numbers Y007 and Y016 required modification to make them suitable for Army use under arctic winter climatic conditions. It was recommended that the disc brake be adopted in preference to the drum brake; that the basic transporter be modified and when modified two production models of the M-6 RLTs be provided the Arctic Test Board for confirmatory test. Item will be deleted from the next report.

Annex A, Cont'd

US ARMY ORDNANCE TEST ACTIVITY, FT. WAINWRIGHT, ALASKA

(16) Rubber Pads and Ozone Loop Exposure Test, (U): Testing is approximately 10% completed. Items remain in static storage.

US ARMY ENGINEER ARCTIC TEST ACTIVITY, FT WAINWRIGHT, ALASKA

(17) 1.1-A-61, Easy-Storage Embankment Supported Fuel Storage Tanks, (U): Testing is approximately 50% completed. Items remain on continuous exposure.

(18) 5.1-A-59, Minefield Siting and Recording Components, (U): Testing is completed, and final report is being prepared. Item will be deleted from the next report.

(19) 6.7-A-61, Expanded Plastic Materials, (U): Test items remain on exposure. No new detrimental effects have been observed during this report period.

(20) 6.9-A-62, Rubber Samples on Test Racks, (U): Testing is approximately 40% completed. No cracking or deterioration has been noted during this report period.

(21) 6.10-A-62, Fire Retardant Paints, (U): Test panels remain on continuous exposure. No cracking, peeling, blistering, or fading has been observed during this period. Testing is approximately 20% completed.

(22) 6.8-A-61, Paper Sandbags, Woven, (U): Initiation of test was rescheduled for March 1963, but items have not been received as of this date.

(23) Service Test of Shop Equipment, Organizational Repair, Light, Truck Mounted, Set Nr 2, (U): Winter phase of testing is completed, and report is being prepared. This report recommended that the summer arctic portion of the test be cancelled. Item will be deleted from the next report.

US ARMY TRANSPORTATION ARCTIC TEST ACTIVITY, FT WAINWRIGHT, ALASKA

(24) TCB-61-166-EV, Propulsion System, Water Jet, (U): Testing is approximately 10% completed. All Testing has been halted until spring break-up.

Annex C, To Memorandum Report Nr 14, 6 May 1963 (STEBE-TS)

US ARMY WEAPONS COMMAND

(1) PCN 13-OAK, Gun, SP, 175-MM, M107, (Production Model), (U): Testing is approximately 90% completed. Muskeg and summer operation is to be conducted.

(2) 2F-3001-03 (PCN OAN), Howitzer, 105-MM, Lightweight, Towed, XM102, (U): Testing is completed, and final report is being prepared.

(3) 2F-3040-03 (PCN OAT), Howitzer, 105-MM, Auxiliary Powered, XM124, (U): Reference is made to Report of Test, 2F-3040-03, Integrated Engineering Test - Evaluation of Howitzer, Light, Towed, Auxiliary Propelled, 105-MM, XM124, which was approved 2 May 1963. Tests were conducted to determine the suitability of the Howitzer, Light, Towed, Auxiliary Propelled, 105-MM, XM124 under arctic winter conditions. Although mobility of the howitzer over the standard howitzer with prime mover was increased, the propulsion system interfered with service of the piece and the added weight made the weapon difficult to manhandle. It was concluded that the howitzer is unsuitable for Army use under arctic winter conditions. It was recommended that no further consideration be given the howitzer for Army use under arctic winter conditions. Item will be deleted from the next report.

(4) 2D-3085-07 (PCN OAV), Howitzer, SP, 105-MM, T195E1, (U): Testing is approximately 90% completed. Muskeg and summer operation tests are to be conducted.

(5) PCN 33-OBG, Battle Group Weapons System w/Projectile & Cartridges, (U), (S): Testing is completed, and final report is being prepared.

(6) 1F-3217-60 (PCN OBV), Tank, 105-MM Gun, M60A1, (U): Testing is completed, and interim report is being prepared.

(7) 1F-3251-60 (PCN OCD), Carrier, Personnel, Armored, T114, (U): Approximately 2,738 miles of operation have been completed. Engine has been replaced, and vehicle is back in operation. Summer mobility test is to be conducted.

US ARMY MUNITIONS COMMAND

(1) 8C-3662-02 (PCN OAA), Mask, Field Protective, M17, (Mod (U): Reference is made to Report of Test, 8C-3662-02, Check Test of Mask, Field, M17, which was approved 2 May 1963. Tests were conducted to determine if the test mask with Winterization Kit E44R1 was suitable for Army use under arctic winter conditions and to determine if the deficiencies reported during previous arctic confirmatory test were corrected. Results of the check test indicated that all previous deficiencies were corrected and no additional deficiencies were encountered. It was concluded that the test mask when worn with the E44R1 Winterization Kit is suitable for Army use under arctic winter conditions. It is recommended that the test mask when worn with the E44R1 Winterization Kit be considered suitable for Army use under arctic winter conditions. Item will be deleted from the next report.

(2) 2C-3058-02 (PCN OAR), Infinity Aiming Post, T6E1, (U): Reference is made to Report of Test, 2C-3058-01 (13 OAR), Integrated Engineering-Service Test of Infinity Aiming Reference Collimator, T6E1, which was approved 26 April 1963. Throughout the period of test, the test aiming post was exposed to ambient temperatures ranging from 48°F to -58°F, operated at temperatures down to -51°F, and used as a reference point for the firing of 482 rounds. The test aiming post was satisfactory with respect to Compatibility with related Equipment, Functional Suitability, and Maintenance (except for power supply). The test aiming post was unsatisfactory with respect to Durability and Reliability and Power Supply Maintenance. Item will be deleted from the next report.

(3) 8C-3018-01 (PCN OBA), Non-Maintainable Wrist Watch, (U): Testing is completed, and final report is being prepared.

(4) 8C-3015-01 (PCN OBG), Cartridge, 40-MM, XM434, (U), (C): Testing is completed, and final report is being prepared.

(5) PCN 33-OCF, Reefing Line Cutters, 2 Second Delay M21, 10 Second Delay M22, Cutter Plates, (U): Testing is completed, and final report is being prepared.

(6) PCN 33-OCG, Air Delivery of Ammunition and Explosives, 90-MM and 105-MM, High and Low Velocity, (U): Testing is completed, and final report is being prepared.

(7) 8C-3202 (PCN OCL), Fuze, M217 w/Grenade, M33, (U), (SSH): Testing is completed, and final report is being prepared.

(8) 1C-3653-60 (PCN ODZ), Cartridge, 105-MM, HEP, BD, T303E8, M393E7, (U): Testing is completed, and final report is being prepared.

Annex D, Cont'd

(9) 8C-3020-01 (PCN OBO), Mine, APERS, M13A1, (U), (SSH):
Testing is completed, and final report is being prepared.

(10) 8C-3410-01 (PCN 005), Load Carrying System, Cold Dry, T62 (Lightweight), (U): Testing completed, and final report is being prepared.

CHEMICAL ARCTIC TEST ACTIVITY, FORT GREELY, ALASKA

(11) 5C-3052-02, Thickener, Incendiary Oil, M4 (E4R1) (DPGTP 484), (U): Cycle Nr 7 was conducted 15-25 April 1963, and report is being prepared. Cycle Nr 8 is scheduled for 24 June 1963.

(12) 8C-3203-02, Grenade, Hand and Rifle, Smoke, WP, M34 (DPGTP 467), (U): Cycle Nr 6 was conducted 11 March 1963, and report is being prepared. Cycle Nr 7 is scheduled for 11 August 63.

(13) 8C-3205-02, Grenade, Hand, Red, Yellow, Green and Violet Smoke, M18 (DPGTP 715), (U): Cycle Nr 5 was conducted 1 Feb 63, and report is being prepared. Cycle Nr 6 is scheduled for 22 July 1963.

(14) 8C-3662-01, Mask, CBR, M17, Filter Element, M13 (DPGTP 577), (U): Cycle Nr 5 is scheduled for 2 June 1963. Nothing significant to report at this time.

(15) 5C-3056-02, Agent, Riot Control, CS-1, (DPGTP 565), (U): Cycle Nr 6 is scheduled for 8 July 1963. Nothing significant to report at this time.

(16) 5C-3618-02, Antiset, Decontaminating Slurry, M2, DPGTP 535), (U): Cycle Nr 6 is scheduled for 7 May 63. Nothing to report at this time.

(17) 8C-3205-01, Grenade, Hand, Yellow Smoke, M18 (New Design) (DPGTP 534), (U): Cycle Nr 7 is scheduled for 1 Feb 65. Nothing significant to report at this time.

(18) 5C-3054-02, Grenade, Hand, Riot, CS, M7A2, (DPGTP 503), (U): Cycle Nr 6 is scheduled for May 1963. Nothing to report at this time.

(19) 5C-3051-02, Grenade, Hand, Riot, DM, E21R1 (DPGTP 455), (U): Cycle Nr 9 is scheduled for May 1963. Nothing new to report at this time.

(20) 5C-3073-02, Fuel Block (Individually Packaged), Smoke Pot, Floating, SGF2, AN-M7, (New Design) (DPGTP 717), (U): Cycle Nr 1 is scheduled for 22 May 63.

Annex E, To Memorandum Report Nr 14, 6 May 1963 (STEBE-TS)

US ARMY ELECTRONICS COMMAND

(1) 6G-3271-02 (PCN ODH), Power Supply, PP-2953, (U): Reference is made to Report of Test 6G-3271-02 (13 ODH), Service Test of Power Supply PP-2953/U, which was approved 19 April 1963. During the test period, the test power supply was installed and operationally employed during temperatures ranging from 48°F to -51°F. The test power supply was installed in a standard 3/4-ton truck and operated in conjunction with the Radio Set AN/VRC-12. External alternating current available generators (45 KW, 60KW, and PU450) or a commercial power source was utilized. Prior to operations, the test power supply was exposed to the elements for periods varying from 12 to 123 hours at temperatures ranging from 48°F to -51°F. The test power supply was satisfactory with respect to functional suitability, compatibility with related equipment, ease of operation and operator's safety, maintenance with the exceptions of the circuit boards not being labeled for ease of circuit tracing, incomplete maintenance package, and incorrect listing of fuse amperage, durability and reliability with the exceptions of the rubber insulation splitting on the AC Cable and the blower fan scraping against the exhaust vent. Item will be deleted from the next report.

(2) 6G-3080-02 (PCN ODJ), PA Set, DE, 1492, (U): Testing has been terminated, and final report is being prepared.

QM RESEARCH AND ENGINEER COMMAND

(1) 7K-3179-02 (PCN OCQ), Tent, Aviation Maintenance Small Adjustable, (Nose-In), (U): Reference is made to Report of USATECOM Test Project Nr 7K-3179-02 (43-OCQ), Check Test of Tent, Aviation Maintenance, Small, Adjustable, Nose-in, T62, which was approved 26 April 1963. The test tent was erected and remained exposed to the elements for 120 days. During this time winds from calm to 50 knots and temperatures from 30°F to -43°F were recorded. Daily inspections were made of the tent and all operable parts tested. The tent was used daily during Operation Timberline. The tent was satisfactory with respect to erecting, striking, and packing. Functional suitability (except for use by ski-equipped aircraft, a way of introducing components of a portable crane into the tent, a way of introducing large parts of maintenance stands into the tent and inadequate heating). Item will be deleted from the next report.

(2) 8K-3400-02 (PCN OCR), Integrated Combat Uniform T62-4, Cold-Dry, (U): Testing is completed, and final report is being prepared.

(3) 8K-3651-02 (PCN OCT), Composite Armor Vest, (U): Testing is completed, and final report is being prepared.

(4) 7K-3178-01 (PCN OCY), Tent Set, Vehicle Maintenance, Small for arctic use, T62-1, (U): Testing is completed, and final report is being prepared.

(5) 8K-3711-01 (PCN O10), Gear, Sleeping, Cold-Wet, Cold-Dry, (U): Reference is made to Report of USATECOM Project Nr 8K-3711-01 (33-O10), Service Test of Sleeping Gear, Cold-Wet, Cold-Dry, which was approved 24 April 1963. The test sleeping gear was utilized by a TO&E rifle platoon under simulated combat conditions during the period 8 Jan-1 Mar 1963. Additionally twenty personnel from a rifle platoon utilized the test sleeping gear for a period of sixteen days during Exercise Timberline. Ambient temperatures during the test period ranged from 49°F to -55°F. The test sleeping gear was satisfactory with respect to efficiency of rapid exit features, portability, aerial delivery and ease of maintenance except for repair of broken zippers. The test sleeping gear was marginally satisfactory with respect to durability and effects of laundering. The test sleeping gear was unsatisfactory with respect to insulative qualities. The sleeping gear failed to meet the following military characteristics: Not to exceed .75 cubic feet when rolled (average size of regular size gear rolled was 1.26 cubic feet). Provide sufficient warmth for at least six hours of restful sleep (several personnel experienced cold feet at temperatures below -23°F) and all personnel experienced cold feet at temperatures below -47°F. Item will be deleted from the next report.

Annex F, Cont'd

US ARMY ORDNANCE ARCTIC TEST ACTIVITY, FT WAINWRIGHT, ALASKA

(6) Special Tests for QM Field Evaluation Agency - Long Term Storage of Disinfectants and Pesticides, (U): Test items continue on enclosed exposure. Selected samples were returned to the laboratories on 16 and 22 April 1963, as requested. Testing is approximately 90% completed.

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